



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,390	11/08/2001	Hirokazu Kanekiyo	60303.3	5634

7590 11/20/2003

KEATING & BENNETT LLP
Suite 312
10400 Eaton Place
Fairfax, VA 22030

EXAMINER

SHEEHAN, JOHN P

ART UNIT	PAPER NUMBER
----------	--------------

1742

DATE MAILED: 11/20/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,390

Applicant(s)

KANEKIYO ET AL.

Examiner

John P. Sheehan

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 32 to 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yajima et al. (Yajima, US Patent No. 5,049,208, cited by the applicants in the IDS submitted December 17, 2001).

Yajima teaches a rapidly solidified (e.g. see, column 6, lines 66) rare earth permanent magnet alloy having a composition that overlaps the composition recited in the instant claims (see column 3, lines 8 to 55). Yajima teaches that the alloy has a thickness of 20 to 80 microns (column 9, lines 30 to 35) that it is pulverized to a powder particle size of 30 to 500 microns (column 9, lines 54 to 56). Yajima teaches that the alloy has a grain size of 0.01 to less than 0.3 microns or 10 to less than 300 nm (column 7, lines 45 to 50). Yajima teaches that the alloy contains a main phase of the 2-14-1 tetragonal phase and additional phases including an amorphous phase and a boride phase (column 7, lines 41 to 61), which appear to be the same as recited in instant claims 33 and 34. The alloy thickness, powder size and grain size taught by Yajima all overlap the values recited in the instant claims. Yajima teaches that the disclosed alloy

Art Unit: 1742

is made by a process of melt spinning, that is, Yajima's alloy is rapidly solidified from the melt and then is optionally heat treated. This is the same process disclosed by the applicants and recited in the preamble of applicants' claims to make the instantly claimed alloy and powder (compare Yajima's Examples 1 and 2 in columns 12 and 13 to the instant specification, page 15, paragraph 0072, lines 1 to 3). Yajima teaches that the alloy has coercivity greater than 600 kA/m (7.54 kOe) as recited in claim 37 (see Yajima, columns 13 and 14, Table 3).

The claims and Yajima differ in that Yajima is silent with respect to the crystal structure recited in the last 2 lines of applicants' claims 32 and 34, the recoil permeability recited in the last 2 lines of claim 36 and the axis ratio recited in claim 37, lines 15 and 16.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy proportions taught by Yajima overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness, in that it would have been obvious to one of ordinary skill in the art to select any portion of the disclosed range including the instantly claimed range, from the range disclosed in the prior art reference, In re Peterson 65 USPQ2d 1379 (CAFC 2003, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05. Further, in view of the fact that Yajima's alloy is made by a process that is similar to, if not the same as, applicants' process of making the instantly claimed alloy, Yajima's alloy would be expected to possess all the same

Art Unit: 1742

properties as recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

3. Claims 32 to 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (Ma, US Patent No, 6,332,933, cited by the applicants in the IDS submitted January 3, 2002) taken in view of Yajima et al. (Yajima, US Patent No. 5,049,208, cited by the applicants in the IDS submitted December 17, 2001).

Ma teaches a rapidly solidified (e.g. column 5, lines 1 to 5) nanocomposite rare earth magnetic alloy having a composition that overlaps the alloy composition recited in the instant claims (column 2, line 39 to column 3, line 8). Ma teaches that the alloy has a soft magnetic phase having a grain size of 2 to 60 nm, a hard magnetic phase having a grain size of 10 to 100 nm and a boride component having a grain size of 1 to 30 nm (column 4, lines 3 to 8 and 45 to 52). Ma teaches that the alloy is ground to a powder having a particle size of 10 to 200 microns (column 4, lines 30 to 33). Ma teaches specific example alloys having compositions that are encompassed by the instant claims (column 8, Examples 6 and 7) and having coercivity greater than 600 kA/m (7.54 kOe) as recited in claim 37 (see Ma, column 8, Table 7 and 8, the Ti containing

Art Unit: 1742

embodiments). Ma teaches that the disclosed alloy is made by a process of melt spinning, that is, Ma's alloy is rapidly solidified from the melt and then is optionally heat treated. This is the same process disclosed by the applicants and recited in the preamble of applicants' claims to make the instantly claimed alloy and powder (compare Ma's Examples 6 and 7 in column 8 to the instant specification, page 15, paragraph 0072, lines 1 to 3).

Yajima teaches that when making rare earth magnet alloys by melt spinning the resulting ribbon generally has a thickness of 20 to 80 microns (column 9, lines 30 to 33).

The claims and Ma differ in that Ma is silent with respect to thickness of the alloy, the crystal structure recited in the last 2 lines of applicants' claims 32 and 34, the recoil permeability recited in the last 2 lines of claim 36 and the axis ratio recited in claim 37, lines 15 and 16.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy taught by the reference has a composition that is encompassed by the instant claims and is made by a process which is similar to, if not the same as, applicants' process of making the instantly claimed alloy. In view of this, the alloy taught by the reference would be expected to possess all the same properties as recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the

Art Unit: 1742

applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

With respect to the claimed alloy thickness, it is the Examiner's position that when making a rare earth magnetic alloy by melt spinning the resulting ribbon has a thickness of 20 to 80 microns as taught by Yajima (column 9, lines 30 to 33) and therefore applicants' claimed alloy which is made by melt spinning would be expected to have a similar thickness.

Response to Arguments

4. Applicant's arguments filed September 11, 2003 have been fully considered but they are not persuasive.

Applicants argue that the instantly claimed alloy is made by strip casting while Yajima's and Ma's alloys are made by melt spinning and that the instantly claimed alloy cannot be made by melt spinning. The Examiner is not persuaded. Applicants' claims are not directed to a strip cast alloy but rather are directed to a "[a] rapidly solidified alloy". This claim language, "rapidly solidified alloy" is considered to encompass Yajima's rapidly quenched alloy (column 6, lines 66) and Ma's rapidly solidified alloy (column 5, lines 3 to 6). Further, applicants' definition of strip casting;

"a strip casting process is a technique of making a thin strip of rapidly solidified alloy by bringing a melt of an alloy into contact with the surface of a chill roller and rapidly cooling and solidifying the melt" (applicants' specification, page 15, paragraph 0072, lines 1 to 3)

Art Unit: 1742

merely requires that the molten alloy be rapidly solidified by being brought into contact with a chill roller. Applicants' definition of strip casting therefore encompasses Yajima's process of melt spinning (column 8, lines 56 to 65) and Ma's process of rapid solidification (column 5, Example 1). Thus applicants' claimed alloy and Yajima's alloy and Ma's alloy are in fact made by the same process. Finally, applicants have presented no evidence to support their allegation that "such process of Yajima et al. could not have produced the unique features recited in Applicants' claims" (applicants response, page 9, lines 1 and 2). "It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification do not suffice." *In re Deblauwe*, 222 USPQ 191, 196 (Fed. Cir. 1984). Mere lawyer's arguments and conclusory statements in the specification, unsupported by objective evidence, are insufficient to establish unexpected results." *In re Wood, Whittaker, Stirling and Ohta*, 199 USPQ 137, 140 (CCPA 1978).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

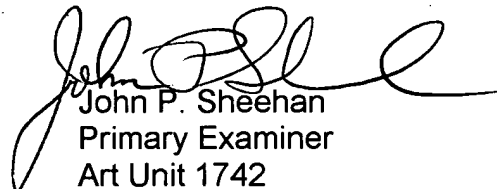
Art Unit: 1742

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (703) 308-3861. The examiner can normally be reached on T-F (6:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-1146. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.


John P. Sheehan
Primary Examiner
Art Unit 1742

jps